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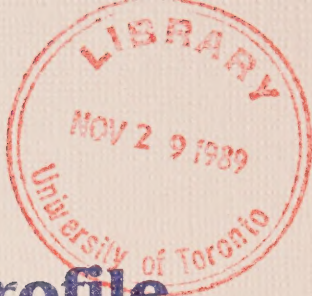
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National Energy Board

An Introduction



1989



Profile

The National Energy Board is an independent federal regulatory tribunal which was established 2 November 1959 by an Act of Parliament.

The prime responsibility of the Board is to protect the Canadian public interest by regulating specific activities of the oil, natural gas and electric industries. The Board also advises the government on matters relating to the development and use of energy resources and administers certain energy policies established by the federal government.

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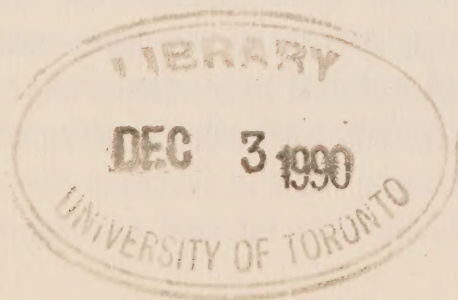
To Our Readers

This booklet provides an introduction to the National Energy Board – what it is, what it does, and why.

Included in this book are a brief summary of the rationale leading to the creation of the Board; an overview of the Board's major areas of responsibility (energy regulation and the provision of energy-related advice); a profile of the staff; and an outline of how the Board carries out its work.

This booklet is not intended to provide detailed information on the energy situation or industry, nor on the Board's day-to-day operations. Such information is published in the Annual Report, quarterly Regulatory Agenda and a series of Information Bulletins on specific topics. The Board also publishes the findings of major inquiries it conducts on a periodic basis, as well as a variety of monthly statistics.

The inside back cover of this booklet will tell you how to contact the Board to obtain information on any of the topics in its area of expertise.



Background/History

The formation of the National Energy Board was first proposed by the Gordon Royal Commission on Canada's Economic Prospects. In its report of November 1957, the Commission recommended the creation of a "national energy authority" to advise the government on broad energy matters and to regulate the export of oil, gas and electricity.

The proposal was fully endorsed in 1958 by the Borden Royal Commission on Energy, whose terms of reference included advising the government on the "extent of authority that might best be conferred on a National Energy Board" with respect to energy matters.

The idea of a national energy board was not new. Concern about the disposition of Canada's energy resources had been present since the early 1900s, when major portions of several new hydroelectric developments were committed by contract to American markets for long terms at fixed prices. This concern led the government to pass the Electricity and Fluids Exportation Act in 1907 which imposed a licensing procedure on the export of electricity.

In the 1940s and early 50s, large new reserves of crude oil and natural gas were discovered and developed in western Canada, principally Alberta. In respect of oil, pipelines were built to connect the oil-consuming areas of Canada as far east as Ontario. Also, an

important oil export trade began while Quebec and the Atlantic provinces remained supplied with the products of foreign oil.

In respect of natural gas, there was much debate about whether to allow the removal of gas from Alberta and, at the national level, whether and how to allow its commitment to export markets on a long-term basis, especially when domestic markets east of Alberta were not then supplied with Canadian gas.

In the mid-1950s, there were competing proposals to build pipelines to move Alberta gas to Ontario and to the American Midwest. TransCanada proposed to build a pipeline from Alberta to Toronto following an all-Canadian route through northern Ontario. A parliamentary debate on the financial assistance required from the federal government to build the project was the centre of the nation's attention.

In regard to oil, increased international competition against Canadian crude oil severely impaired its export market and threatened the new markets for Canadian oil in Ontario. These developments led to pressure from western Canadian interests to extend the domestic market for Canadian oil to include Montreal, then the largest refining centre in the country.

By the time the Gordon and Borden Commissions made their reports, the idea of a national energy board to regulate pipeline construction, transportation tolls and energy exports and to advise the government on energy matters was well established.

The legislative proposal, Bill C-49, was introduced in the House in May 1959, received Royal Assent in July, and was proclaimed into law as the *National Energy Board Act* on 2 November of the same year.

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In the 30 years since then, the role of the Board has gradually changed. Today, the Board continues to regulate the exports of oil, natural gas and electricity to ensure that the export is "in the Canadian public interest", in other words, that it will benefit Canadians. To do so, the Board reviews export applications in detail to ensure that, among other things, there are sufficient supplies and markets to warrant the proposed export.

The Board also regulates the design, construction and operation of international and interprovincial oil and natural gas pipelines and international electric power lines to ensure they are built and operated in a manner that will protect company employees, the general public, public and private property, and the environment.

In addition, the Board regulates the tolls and tariffs of interprovincial and international pipelines to ensure that the companies have the opportunity to earn a fair return on their investment and that energy shippers pay reasonable transportation costs.

At the same time, the National Energy Board continues, in the areas of its expertise, to advise the government on energy matters and to implement regulation as provided for in its Act and related regulations.

It is also important to note what the Board does not regulate: hydrocarbon exploration, drilling or exploitation; or electric power generation for use in Canada. The Board also does not regulate the construction or operation of pipelines that do not cross an interprovincial or international boundary.

Organization

The Board is composed of nine permanent and two temporary Members who are supported in their work by a staff of about 330.

The Members are appointed by the federal Cabinet on the recommendation of the Minister of Energy, Mines and Resources. The term of appointment of a permanent Member is seven years. Cabinet may also appoint up to six temporary Members for periods of less than seven years. The Members collectively have a wide range of government and industry energy experience.

The Board's 330 staff members are located mostly in Ottawa, with a small number in the Calgary office. The strength of the staff is reflected in the variety of disciplines represented: accountants, economists, engineers, environmentalists, geologists, and lawyers.

Under the terms of the *National Energy Board Act*, under which it operates, the Board is accountable to the people of Canada through Parliament. Its accountability to Parliament is channelled *through* the Minister of Energy, Mines and Resources. As discussed later in this booklet, it is important to note this distinction from most other government

departments and agencies who report only to their Minister, because this fact is an essential ingredient in the Board's maintaining its independence and objectivity.

Responsibilities

Natural Gas

The export and import of natural gas is authorized by the issuance of long-term licences (for periods over two years) and short-term orders.

All of Canada's natural gas exports are made by pipeline to the United States. There are eight major points along the Canada/United States boundary where Canadian pipelines interconnect with those in the United States. Most of the exports are destined for California (40 percent) and the central region (40 percent). Smaller volumes are exported to the Pacific northwest (11 percent) and the northeast (9 percent). This is illustrated in the accompanying map, where the arrows represent the relative size of the export and show the destination. Canada's share of the American gas market has been growing over the past few years – in 1988, it stood at seven percent of the total. Net revenues from natural gas exports totalled \$3 billion in 1988.

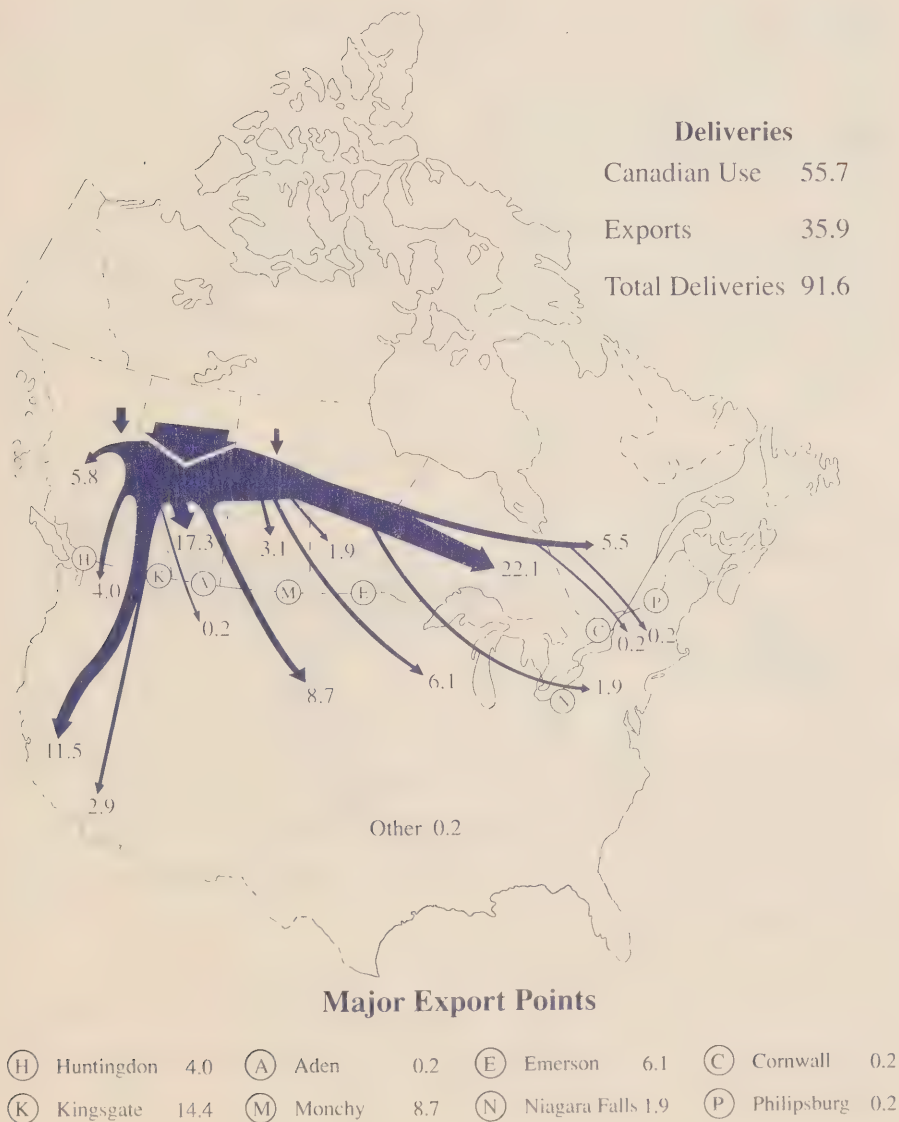
Propane, butane, ethane and ethylene are natural gas by-products that are extracted from natural gas during processing. The Board lifted its export controls on ethylene and butane in 1983 and on propane in 1984. Companies must continue to obtain an export order, but there are no restrictions on volumes or prices.

Figure 1

Natural Gas Disposition

1988

(Billions of Cubic Metres)



The export of ethane continues to be subject to the same criteria as natural gas. No licences have been issued for the export of ethane since 1973.

Canada's imports of natural gas are small, relative to our exports.

Oil

In regulating oil exports, the Board issues long-term licences (for periods over one year for light crude oil and over two years for heavy fuel oil) and short-term orders.

Canada produces sufficient quantities of oil to meet its own needs; however, western Canada exports oil, while eastern Canada imports oil to meet its requirements. Canada has for some years been a large net exporter of oil.

96 percent of Canada's oil exports are destined for the United States, primarily the midwest, with smaller volumes shipped to the eastern seaboard, the Gulf coast and the west coast. The remaining volumes are exported to East Asia.

The total revenue from oil exports in 1988 amounted to \$6.4 billion; however, this was in part offset by \$4.2 billion in imports.

Figure 2

Canadian Crude Oil Disposition 1988

(Thousands of Cubic Metres per Day)



Electricity

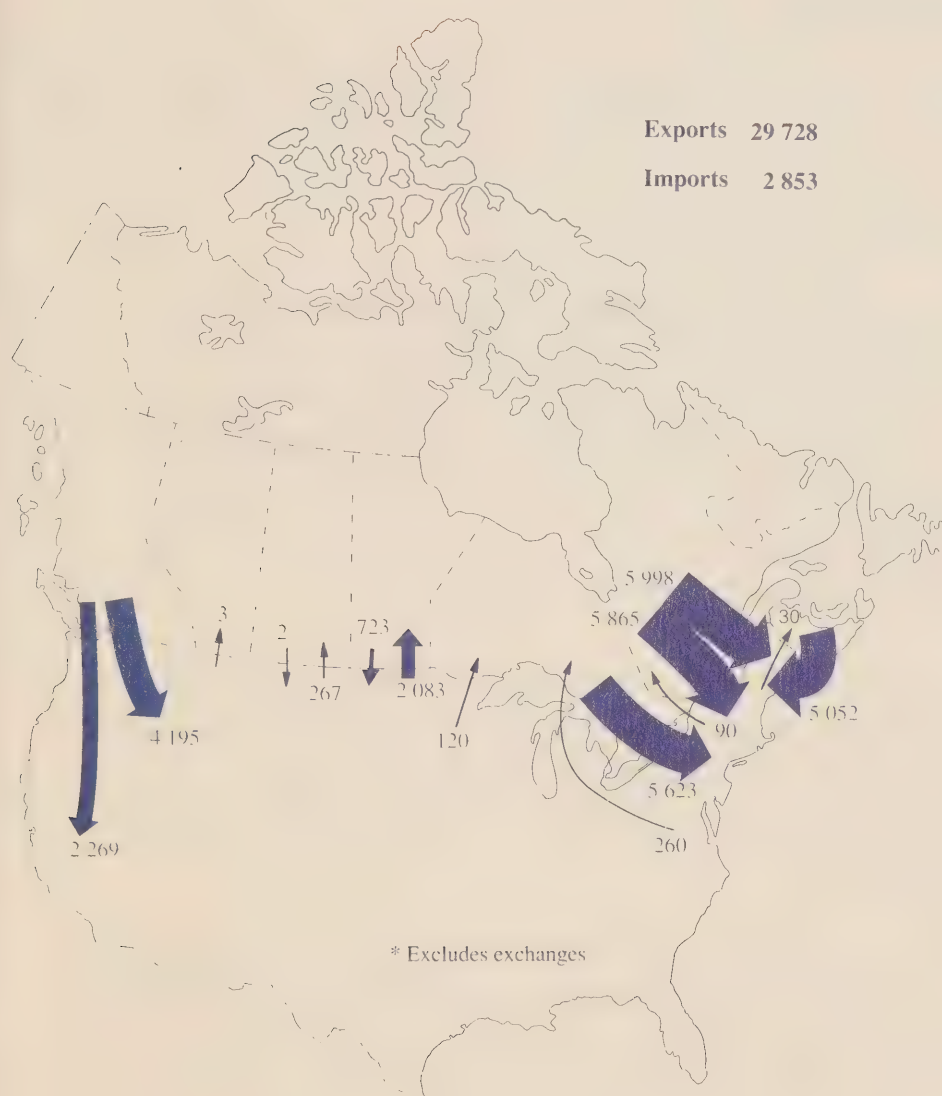
Electricity exports are regulated by the issuance of licences or orders.

The generation of electricity and the operation and construction of power lines within a province or between provinces are regulated by the appropriate provincial authorities.

Canada's major electricity market is the American northeast, particularly New York and the New England States, which import electricity from Quebec, Ontario and New Brunswick. To a lesser extent, British Columbia exports to the American west coast and Manitoba and Saskatchewan export to the north-central states.

The amount of electricity exported in a given year is influenced by several factors. First of all, the amount cannot exceed the authorized limits set by the Board. Secondly, the weather plays an important role. Low water levels in Canada such as those caused by low snowfalls or drought, will reduce the amount of power generated and, consequently, the amount available for export. In addition, the domestic demand could reduce the amount available for export. Finally, the economics of export transactions may also influence the quantities sold.

Figure 3
International Transfers of Electricity*
1988
 (Gigawatt Hours)



The total revenue from electricity exports in 1988 amounted to \$0.9 billion; however, this was offset somewhat by the cost of electricity imports.

Pipelines

Interprovincial and international pipelines may be built only with the Board's approval, given in the form of a Certificate of Public Convenience and Necessity, or, for smaller facilities, by an Order.

There are 48 pipeline companies, operating some 32,000 kilometres of pipe, under the Board's jurisdiction. They operate the interprovincial and international oil and gas pipelines indicated in the accompanying maps. Other pipelines, which lie wholly within one province, are regulated by the respective provincial regulatory body.

In determining whether a pipeline project should proceed, the Board reviews, among other things, the technical and financial feasibility, and the environmental and socio-economic impact of the project.

The pipelines must be designed, built, operated and eventually abandoned in accordance with the Board's regulations. The technical basis of these regulations is the standards of the Canadian Standards Association

In addition, the Board's regulations include stringent standards to ensure that the pipelines are built and operated safely and with minimal impact on the environment.

To ensure that the Board's requirements with regard to engineering, safety and the environment are met, the Board routinely monitors and inspects construction projects and operating facilities.

Since February 1987, the Board's inspectors have also been responsible for enforcing that part of the Canada Labour Code which applies to occupational safety and health of the pipeline workers in the field. Most of these inspections are combined with the Board's own facilities inspections.

Figure 4

**Oil and Oil Products Pipeline Companies
Regulated by the National Energy Board**



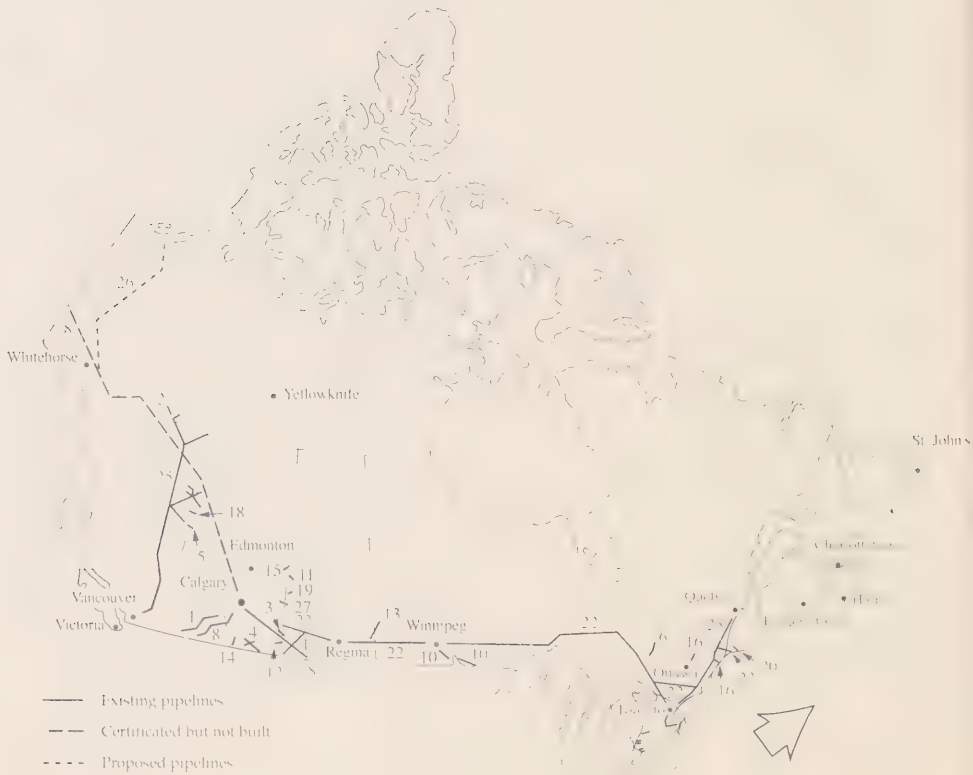


This map shows approximate locations only and should not be interpreted as an accurate representation of pipeline routes.

1. Aurora Pipe Line Company
2. Cochin Pipe Lines Ltd.
3. Dome Kerrobert Pipeline Ltd.
4. Dome NGL Pipeline Ltd.
5. Dome NGL Pipeline Ltd.
Amoco Canada Petroleum Company Ltd.
6. Esso Resources Canada Limited
7. Interhome Energy Inc.
8. Interprovincial Pipe Line (NW) Ltd.
9. Manito Pipelines Ltd.
10. Mont Resources Limited
11. Montreal Pipe Line Limited
12. Murphy Oil Company Ltd.
13. Northwest Transmission Company Limited
14. Petroleum Transmission Company
15. Polysar Hydrocarbons Limited
16. Sun Pipe Line Company
17. Trans Mountain Pipe Line Company Ltd.
18. Trans-Northern Pipelines Inc.
19. Wascana Pipe Line Ltd.
20. Westspur Pipe Line Company (1985) Inc.
21. Windsor Storage Facility Joint Venture
22. Yukon Pipelines Limited

Figure 5

Gas Pipeline Companies Regulated by the National Energy Board





This map shows approximate locations only and should not be interpreted as an accurate representation of pipeline routes.

1. Alberta Natural Gas Company Ltd
2. Amoco Canada Petroleum Company Ltd.
(inactive)
3. Amoco Canada Resources Limited (inactive)
4. Canadian-Montana Pipe Line Company
5. Canadian Hunter Exploration Ltd.
6. Champion Pipe Line Corporation Limited
7. Consumers' Gas (Canada) Limited
8. Foothills Pipe Lines Ltd.
9. Genesis Pipeline Canada Limited
10. ICG Transmission Holdings Ltd.
11. Many Islands Pipe Lines (Canada) Limited
12. Mid-Continent Pipelines Limited
13. Minell Pipeline Ltd.
14. Murphy Oil Company Ltd.
15. Newex Resources Ltd.
16. Niagara Gas Transmission Limited
17. Novacorp International Pipelines Ltd.
18. Peace River Transmission Company Limited
19. Saskatchewan Power Corporation
20. Shell Canada Products Limited
21. St. Clair Pipelines Ltd.
22. TransCanada PipeLines Limited
23. Trans Québec & Maritimes Pipeline Inc.
24. Union Gas Limited
25. Westcoast Energy Inc.
26. Foothills Dempster Lateral (Corridor)
27. Bonanza Oil and Gas Ltd.

International Power Lines

International power lines may be built and operated only with the Board's approval, given in the form of a Certificate of Public Convenience and Necessity, or, in the case of relatively small lines, an Order.

In determining whether an international power line project should proceed, the Board reviews among other things, the technical feasibility of the project, the impact of the project on adjacent provinces and the environmental impact of the project.

Six of the seven Canadian provinces bordering on the United States currently have interconnections with neighbouring utilities in the United States. A total of 36 circuits, operating at voltages of 69 kilovolts and above, are currently in service, and several more are planned over the next decade.

Since the Board was first established in 1959, the total international power line capacity has increased by a factor of almost ten, from 1575 megawatts to close to 15 000 megawatts in 1988. Additional information on these international power lines is given in Figure 6.

Figure 6
International Interconnections

| Province | State | Voltage Level (kV) | Nominal Transfer Capacity* (MW) |
|---------------------------------|---------------|--------------------|---------------------------------|
| New Brunswick | Maine | 1 x 345 | 600 |
| | | 1 x 138 | 60 |
| | | 5 x 69 | 330 |
| Quebec | New York | 1 x 765 | 2 500 |
| | New York | 2 x 120 | 200 |
| | Vermont | 3 x 120 | 300 |
| | New Hampshire | ± 450 (DC) | 690 |
| Ontario** | New York | 4 x 230 | 1 470 |
| | | 2 x 345 | 2 300 |
| | | 2 x 69 | 132 |
| | | 2 x 115 | 200 |
| | Michigan | 2 x 230 | 1 050 |
| | | 2 x 345 | 1 470 |
| | Minnesota | 1 x 120 | 35 |
| | | | |
| Manitoba | North Dakota | 1 x 230 | 150 |
| | Minnesota | 1 x 230 | 175 |
| | Minnesota | 1 x 500 | 1 000 |
| Saskatchewan | North Dakota | 1 x 230 | 150 |
| British Columbia | Washington | 2 x 230 | 650 |
| | | 2 x 500 | <u>1 400</u> |
| Total nominal transfer capacity | | | <u>14 863</u> |

* Actual transfer capacity in practice may be different from nominal transfer capacity since the actual transfer capacity is affected by such considerations as system stability and loading and reliability criteria.

** The actual simultaneous transfer capacity from Ontario to the United States is limited to approximately 3 500 MW.

Tolls, Tariffs and Traffic

The Board regulates the tolls and tariffs of the pipelines under its jurisdiction to ensure they are just and reasonable and that there is no unjust discrimination in tariffs or service.

In regulating tolls, the Board takes into consideration the financial concerns of the pipeline companies, such as the capital and operating costs, the need for the companies to earn a reasonable rate of return on investment, and the cost of expanding service.

At the same time, the Board ensures that the companies that ship the oil or natural gas are protected from excessively high transportation costs.

A pipeline company's tariff contains the conditions under which transportation service is provided. The tariff includes conditions on accepting new shippers, on determining which position a shipper will occupy on the waiting list for service (queueing) and on allocating capacity to shippers when the pipelines are operating at capacity.

The Board requires that pipeline companies operate under the principles of open access and non-discrimination. To explain further: all parties must have access to transportation (whether firm or

interruptible) on the same non-discriminatory basis. These principles are applicable, for example, to domestic and export interruptible customers, and to pipeline affiliates, local distribution companies and independent shippers. In addition, the tolls for services provided under similar circumstances and conditions must be charged equally to all customers of a pipeline.

Energy Studies

As part of its responsibility to regulate exports and to provide advice, the Board monitors the energy scene on an ongoing basis and publishes its findings in two major reports.

In *Canadian Energy: Supply and Demand*, the Board examines the outlook for the supply and demand of Canadian energy. Specifically, this report contains projections of the Canadian supply of all major energy commodities, including electricity, oil and natural gas, and their by-products, and coal, and the demand for Canadian energy in Canada and abroad. The report is published about every second year. The most recent issue is dated September 1988.

The *Natural Gas Market Assessment*, which first appeared in December 1988 and is published periodically, provides both an assessment of the functioning of the Canadian natural gas market and a review of the short-term outlook for the supply and demand of Canadian natural gas. It details the structure and functioning of the Canadian natural gas market, focussing on the period since 31 October 1985.

In addition, at the Minister's request, the Board studies and reports on other energy-related matters. As an

example, the Board is currently investigating measures that could be taken to enhance interprovincial electricity transfers.

How the Board Regulates

The Board operates as a superior court of record. In other words, the Board operates very similarly to a civil court and its powers include the swearing in of witnesses, the subpoena of involuntary witnesses, taking of evidence, and making its decision. The Board's decisions are based on the evidence that is publicly filed and publicly available in the Board's library and at its office in Calgary.

For major applications and inquiries, the Board holds public hearings at which applicants and interested parties have full rights of participation in the official language of their choice. The hearings may be written or oral, and are held in localities across Canada appropriate to the interest expressed. Usually, a panel of three Board Members are assigned to decide on a given application. The procedures that will be followed during the hearing are spelled out in a hearing order. The hearing order specifies the date and location of the hearing, the dates by which written submissions and information requests must be submitted and responded to, the order in which certain topics will be addressed and the order in which interested parties may express their concerns and ask questions.

The Board seeks to minimize the cost of hearing processes. In this connection, it deals with many applications without an oral public hearing. These are

usually dealt with by written submission. As an example, a total of about \$200 million worth of pipeline facilities (including storage tanks, compression and pumping equipment) is approved annually without the requirement for a public hearing. These are usually a series of small projects related to existing pipelines.

It should be pointed out that whether the Board obtains its evidence at an oral public hearing or through a written submission procedure, the Board renders a decision and provides reasons for that decision. These are usually issued in a report, appropriately entitled *Reasons for Decision*.

Many of the decisions the Board makes require the approval of the Governor in Council (Cabinet). These include the issuance of certificates for pipelines and the long-term export of oil and natural gas under licences. The long-term export of electricity and the construction of international power lines also require Governor in Council approval; however, under a policy recently announced by the Minister of Energy, Mines and Resources, the Board will, at some time in the future, authorize these activities by permit without the requirement for approval by the Governor in Council.

The Board's decisions on tolls, tariffs and traffic are made without reference to the Governor in Council, as

are the majority of the Board's day-to-day decisions. A decision of the Board to refuse an application is not subject to referral to the Governor in Council, with the exception of a denial of an export application triggering certain provisions of the Free Trade Agreement.

Parties may apply to the Board requesting that a decision be reviewed. The Board may also on its own motion, review, rescind or change any of its orders or decisions, or rehear any application before deciding it. It may also change a previously issued certificate or licence, but no such change is effective until approved by the Governor in Council.

A decision of the Board may also be appealed to the Federal Court of Appeal, providing the appeal is based on a point of law or jurisdiction.

The Board does not have the power to award costs to participate in its proceedings. However, in the case of detailed route hearings¹, the Board establishes the appropriate level of compensation to be paid to a landowner for costs associated with participation in the

1. Persons whose lands may be affected by the route of a pipeline or power line approved by the Board can present their views to the Board at a local public hearing (detailed route hearing). Their evidence is considered in the determination of the final route of the line.

hearing, in the event of a dispute between the landowner and the company.

In cases where the dispute between the landowner and the company centres on the compensation payable for the acquisition of lands, or for damages resulting from the company's operations, the company or the landowner may apply to the Minister of Energy, Mines and Resources to request negotiation or arbitration. The Board does not have the authority to deal with questions of compensation for lands.

The Board's operations are governed by a number of underlying principles. First, the Board is accountable to the people of Canada through Parliament. Its accountability to Parliament is channelled *through* the Minister of Energy, Mines and Resources; however, it does not report *to* the Minister as other government departments report to their respective Ministers. The Board also strives to be responsive to applicants and interested parties and treats its clients with fairness and equity. These are essential ingredients in the Board's endeavour to maintain its independence, objectivity and credibility.

The NEB in Perspective

The National Energy Board is the Canadian federal energy regulator. The parallel organization in the United States is the Federal Energy Regulatory Commission, with lesser involvement by the U.S. Departments of Energy and Transportation.

At the Canadian federal government level, the Department of Energy, Mines and Resources is the government's prime resource of energy policy advice and is also involved in energy and mineral technology. Where the department's policy advice results in new approaches to energy exports or pipeline regulation, the National Energy Board considers these new policies in carrying out its regulatory functions.

Across Canada, most of the provinces and territories have established their own energy regulatory bodies. Although each agency has its own individual mandate and responsibilities, they generally regulate the pipelines that lie wholly within their province, the electric utilities, and may regulate the removal of energy produced in that province.

Although the Board operates independently, it maintains a policy of sharing information and experiences with the public, other federal and provincial government departments, and with the governments of other countries. Visitors are interested in the Board's approach and practices concerning

financial, engineering, and environmental regulation and find them to be useful references for application in their own countries. Board staff also provide information to the International Energy Agency and participate in discussions with the United States on energy trade.

To Recap

The National Energy Board:

- issues licences and orders for the export of natural gas, oil and electricity and for the import of natural gas
- issues certificates for the construction of international and interprovincial pipelines and international power lines
- establishes the tolls for pipelines under its jurisdiction; regulates the tariffs of the pipelines and determines issues relating to traffic
- monitors the energy scene in Canada and abroad; reviews the Canadian supply of all major energy commodities and the demand for Canadian energy.

For more information

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A library of current documentation is also maintained at the Board's office in Calgary:

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